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Academic Hypermedia Reading At Postgraduate Level: A Case Study Of EFL Learners

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Abstract

In this digital age, use of hypermedia, multimedia environment, and online resources has changed the way of traditional language learning and instruction. However, these types of environments have mostly used for general English classes but not for the academic courses at postgraduate levels. Therefore, there is an urgent need to empower the students at postgraduate levels with e-literacy skills to enable them to read multimedia texts in their academic contexts. This paper explored how postgraduate students engaged in reading their academic course texts in hypermedia environments. It also tried to find out the hypermedia tools they employed and the relation between choosing tools and the participants' sensory pathways. To do this case study, a sample of eleven postgraduate students majoring in English Language Studies was chosen to read two academic hypermedia-reading texts. These students were selected based on their existing computer literacy skills gauged through a background questionnaire prior to selection. The postgraduate students were introduced to the hypermedia reading platform for the study which was accessible through an internet address as subscribed users. The tool used to gain insight of the participants' perceived sensory pathways was the Sensory Pathway Questionnaire. Data from the questionnaires are triangulated with a semi-structured interview after hypermedia reading was finished. Then, observed hypermedia reading behaviors which were captured on screen by CAMTASIA and a post-online reading stimulated recall was conducted where responses were recorded for analysis using NVIVO. Generally the findings of this study reveal that the selected Iranian postgraduate students were inclined towards the visual sensory pathway evident in their choice of using most of the visual representations tools in the hypermedia environment. That is, learning is enhanced and was more effective by using visual tools. Therefore, this study has shown how hypermedia reading environment has facilitated the foreign students' reading process and reading comprehension faster and more accurately. More importantly the findings of the study has suggested that hypermedia reading environments and tools can empower and transform non-native readers of English academic materials from dependent readers to autonomous independent readers who are more confident of their understanding and comprehension of the texts they read. Hence, creating hypermedia reading opportunities should be further encouraged in reading classrooms to develop these effective and independent readers.

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1. Introduction

Recently, there has been an increase use of computers and technology in teaching and learning a second language. The rapid growth of incorporating hypermedia and multimedia evolution has had a great impact on education in general. Using computer and internet in schools and homes has become expanded and the implications of computers for language learning are considered by majority of language teachers. (Chapelle, 2002) A number of authors have written about the potential offered by computer applications for language learning. Brett (1998) offers four general qualities of multimedia which have the potential to improve language learning:

- its ability to combine and to deliver learners with integrated, different source media,
- its interactivity and the links provided between the data,
- the ease and instant accessibility of all the data and media,
- the vast quantity of data that can be provided in the complete variety of media.

According to Berk and Devlin (1991) “any application that manages to create even the most rudimentary mixture of text, picture or sound is like to be dubbed by its marketers as a multimedia application.” On the other hand, “hypermedia allows users to gorge their own nonlinear paths through images, sounds and text.” (p.23) They continue that in order to have a successful hypermedia, we have to integrate the videos, sounds, and images in such a way that viewer do not have to worry where to stop to find out whether the nodes consist of texts, pictures, audios or videos.

The term *learning style* refers to the preferred general approach students use while learning a subject, acquiring a language, or dealing with a difficult problem (Oxford 2001; Reid 1998). It is said that each individual incorporates one of these four sensory pathways within the area of learning styles, each individual reflects sensory style dimensions: visual, auditory ,hands-on (Oxford, 2003).

This study tried to identify the sensory pathway or perceptual learning preferences of Iranian postgraduate English language learners and found out whether the sensory pathways, which are considered a classification of cognitive styles, make the students utilize different hypermedia tools while reading academic hypermedia texts. Another important objective of this study was to find out which tools helped the students and used by them most. On the other hand, it will assist the online learning developers to provide appropriate hypermedia features based on the learners sensory pathways so that the learners with different sensory preferences will benefit from the same multimedia or hypermedia texts and this will lead them to use appropriate online reading strategies while reading.

2. Research methodology

The participants of this qualitative case study were eleven Iranian postgraduate students of English Language Studies from a local university in Malaysia. They were selected based on their computer literacy questionnaire and they were all experienced in using computer and internet .Perceptual Learning Style Preference Questionnaire (PLSPQ) was used to identify the perceived learning style preference or sensory pathway of the participants before the reading sessions. It was a 30-item questionnaire of Reid (1987) in the form of five-point Likert Scale. The participants were supposed to read the statements and select from 5 to 1 as they apply to their study of English. (5 = Strongly Agree, 4 = Agree, 3= Undecided, 2 = Disagree, and 1 = Strongly Disagree). Then, the numbers should be multiplied by 2 to calculate the scores of each style. Figure1 shows different categories of PLSPQ, that is, visual, tactile, auditory, group, kinaesthetic styles by each participant. To find out the reported perceptual learning style preference of each participant, a criterion is given by the developer of the PLSPQ. The scores of 38-50 are considered as major learning style preferences, the scores of 25-37 are nominated as minor learning style preferences, and the scores of 0-24 are considered as negligible learning styles.

The hypermedia reading was made by the help of a platform which was based on a research conducted by a group of researchers at UKM in Malaysia. Their platform was based on the online reading strategies of tertiary

students and the instructional design of online reading. (Afendi Hemat et al, 2010; Noorizah Mohd. Noor, 2009)

The participant's pathway of the reading process was recorded by Camtasia Studio 7 software. This software recorded the whole reading process of the students while navigating, searching, and browsing or any other activities they did on the screen; Moreover, it recorded audios of the participants while they speak out loud. These on screen recordings were analysed by NVIVO 9 software to find out the actual performance of participants in hypermedia environment and the tools they employed while reading as well as their major sensory pathways.

Then, the first interview was conducted after the second hypermedia reading to gain more insights about the ideas of the participants about hypermedia reading tools and characteristics. The second interview, stimulated recall, was done after analysing the recorded screen and the researcher and participants looked at the recorded reading process and replied the questions about some specific reading behaviour and tools they employed while reading. The results of the questionnaire, the recorded reading processes and interviews are shown in the following section.

3. Findings and discussion

The participants' 'perceived sensory pathways or perceptual learning styles are illustrated in Fig.1. The prime focus of this research was in the use of auditory and visual modalities. So, by a quick look it is quite clear that participants 6, 7, 8 and 9, that is just four of the eleven participants have been considered as major visual learners and the rest are nominated as minor or negligible visual learning style preferences. Moreover, participants' 1, 2 and 7 major learning style preference is auditory. These results are before reading the academic hypermedia texts and these are their own responses to the questionnaire.

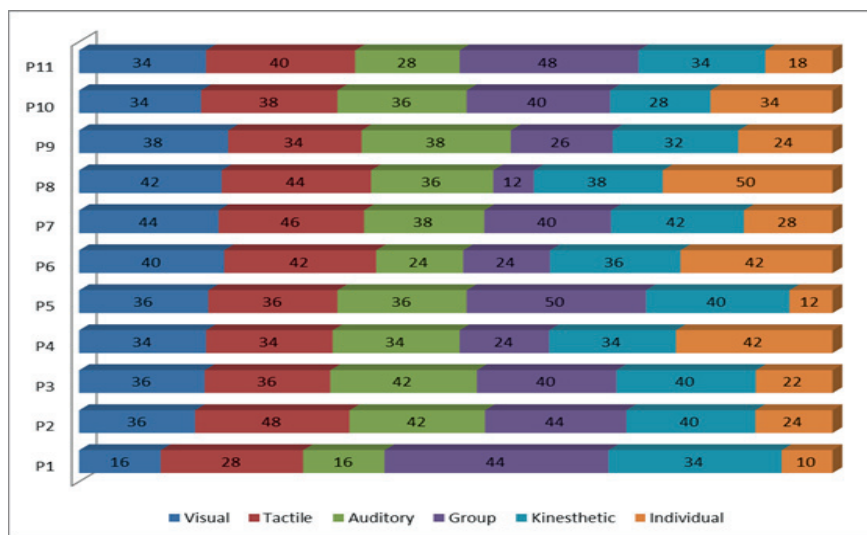


Fig. 1. participants' perceived learning styles

This is indicative of the fact that they do not prefer visual or auditory modalities while reading academic texts. And they use another style or a combination of modalities while reading. However, by analysing the actual performance of the participants shown in figure 2, it is quite clear that majority of them has used the tools related to visual styles. For example highlighting tools, visual representations (graphs, tables, power points), and videos are among the tools used most by all participants. This along with the interview sessions shows that the participants performance were based on the visual tools and they preferred not to use the other ones most, as they believed these visual modalities or visual glosses of the hypermedia environment had facilitated their reading behaviour and made their academic reading easier, faster and enjoyable.

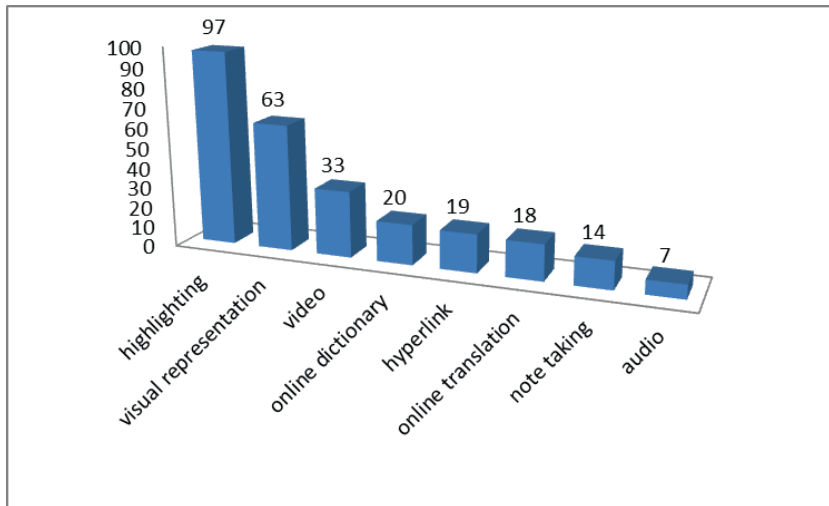


Fig. 2. tools used by participants in hypermedia reading

Figure 3 exhibits the participants' performed sensory pathways in hypermedia reading. By comparing Figure 3 with Figure 1, it is quite evident that almost all of the eleven participants' sensory pathways have been changed to visual learners. This is indicative of the fact that hypermedia reading and multimedia environment may change the preferred sensory pathway or perceptual learning style of the learners due to its unique characteristics which are different modes of presentation especially visual representations.

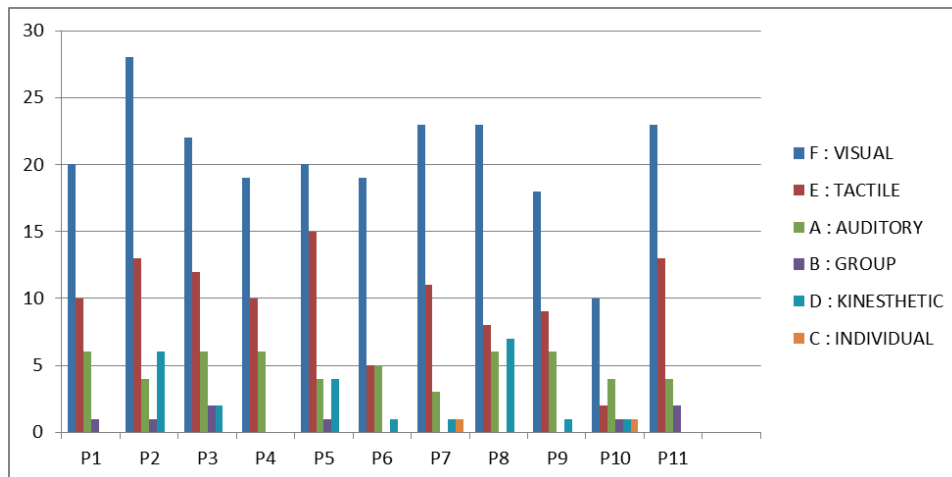


Fig. 3. participants' performed learning styles in hypermedia reading

By analysing the interview and stimulated recall sessions, as shown in Figure 4, it is also founded that some of the characteristics of hypermedia reading and multimedia tools were more important and interesting for the participants. As a matter of fact, almost all of them have mentioned that this system has facilitated their reading processes. Considering the diversity in learning styles and providing different kinds of tools for different individuals were another significant benefit of this hypermedia reading. Consequently, these characteristics along with the ease of use have motivated the learners and enhanced their reading process.

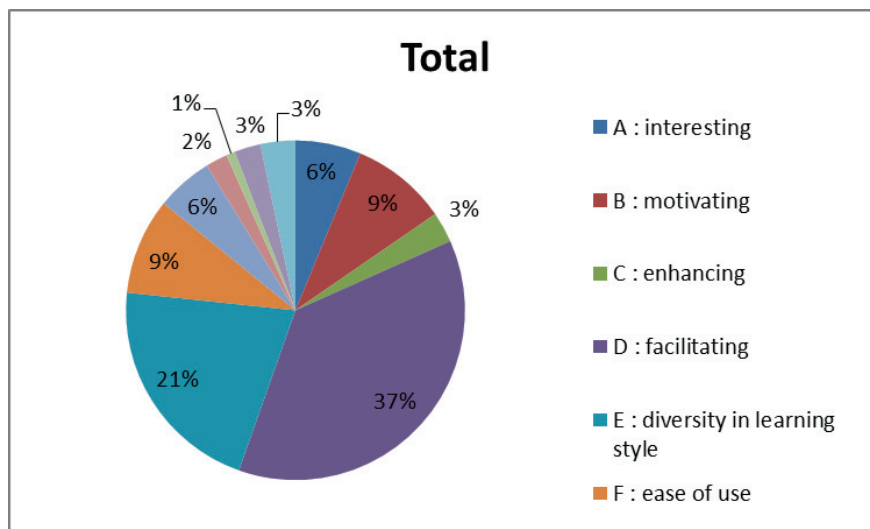


Fig. 4. participants' performed learning styles in hypermedia reading

4. Conclusion

This study supports the dual coding theory of multimedia learning in hypermedia environment. Another strong point of using multimedia and visual representation in a hypermedia environment is that the application of visual representation, save times, is enjoyable, motivating and easy to use. At the same time, it has facilitated the process of academic reading and made reading process faster and easier which leads the learners to become more autonomous and independent readers. This confirms the other researchers' findings such as Erçetin, 2010 who asserts "Such environments are rich in input and can facilitate L2 reading process through resources such as multimedia glosses and annotations." (p.242) Moreover, because of the nature of hypermedia and multimedia tools the EFL learners' perceptual learning styles/ sensory pathways have been changed to visual and tactile learners.

Findings also indicates how hypermedia reading environment has facilitated the foreign students' reading process and reading comprehension faster and more accurate. More importantly, the findings of the study have suggested that hypermedia reading environments and tools can empower and transform non-native readers from dependent readers to autonomous independent readers who are more confident of their understanding and comprehension of the texts they read. Hence, creating hypermedia reading opportunities should be further encouraged in academic reading classrooms to develop these effective and independent readers at postgraduate level.

References

- Afendi Hamat, Nor Fariza Mohd. Nor, Hazita Azman, Nadzrah Abu Bakar, & Noorizah Mohd. Noor. (2010). i-ELLS: A Research-based design for an online interactive literacy system *International Journal of Education and Information Technologies*, 4(3), 165-173.
- Berk, E., & Devlin, J. (Eds.). (1991). *Hypertext/Hypermedia handbook*. New York: McGrawHill.
- Brusilovsky, P. (2003) Adaptive navigation support in educational hypermedia: The role of student knowledge level and the case for meta-adaptation. *British Journal of Educational Technology*, 34 (4), 487-497
- Chapelle, C.A. (2002). Moving forward with CALL research. In J. Colaert, W. Deco, M. Simones, & S.Van Bueren (Eds.), *Proceedings of the tenth international CALL conference: CALL professionals and the future of CALL research* (pp.11-15). Antwerp, Belgium.
- Ercetin, G. (2003). Exploring ESL Learners' Use of Hypermedia Reading Glosses. *CALICO Journal*, 20(2), 261-283.
- Erçetin, G. (2010). Effects of topic interest and prior knowledge on text recall and annotation use in reading a hypermedia text in the L2. *ReCALL*, 22(2), 228-246. doi: 10.1017/s09583440100000
- L.Oxford, R. (2003). Language learning styles and strategies: Concepts and relationships. *IRAL*, 41(4), 271-278.

- Noorizah Mohd. Noor, Nadzrah Abu Bakar, Hazita Azman, Nor Fariza Mohd. Nor & Afendi Hamat. 2009. "Exploring The Use Of Online Reading Strategies Among ESL Learners", *Paper presented at The Indonesian University of Education. 2 - 5 August 2009*
- Reid, J. M. 1987. The learning style preferences of ESL students. *TESOL Quarterly* 21(1): 87-111.